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ABSTRACT

Issues that affect the use of performance indicators in managing educational quality are discussed in this paper. Recent changes in public-sector organizational management include the development of strategies for the management of change itself and the changing role of the public sector. A trend within the public sector is an increase in the level of devolution of authority and responsibility in public-sector organizations. A theoretical framework based on two different perspectives--the assurance of quality and a multilevel systems perspective--is presented. The quality management process used by the South Australian Education Department is described. The process assesses four domains of effective practice indicators: teaching and learning; management and organization; ethos and culture; and social justice. A conclusion is that the convergence of perspectives on corporate quality management with those on the organization of school systems offers a powerful approach for the assurance of educational quality. Two tables are included. Appendices contain information on performance indicator domains, examples of performance indicator statements, and assessments of schools' teaching and learning and management and organization practices. (3 references) (LMI)

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PERFORMANCE INDICATORS AND THE MANAGEMENT OF QUALITY IN EDUCATION

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Keynote address prepared for the
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PERFORMANCE INDICATORS AND THE MANAGEMENT OF QUALITY IN EDUCATION

ABSTRACT

This paper deals with a range of issues which impact upon the use of performance indicators in managing the quality of education. It commences by discussing measurement issues and the purposes for having performance indicators. These purposes are then linked to recent change in the management of public sector organisations. The major elements of this change have been the development of strategies for the management of change itself and the changing role of the public sector. In particular, the recent move to increase substantially the level of devolution of both authority and responsibility in public sector education organisations is discussed. Performance indicators are necessitated by the move towards the greater use of strategic planning, strategic management and the need to evaluate and review the progress of systems toward the achievement of stated goals.

Issues of review and evaluation in public sector education systems are discussed in the light of a convergence of theoretical frameworks from two quite different perspectives: the assurance of quality, and organisational perspectives of education systems as multi-level systems.

The role of monitoring is linked directly to the emergence of an emphasis on auditing. Audit, review, and evaluation at system level are discussed in the context of the assessment of effectiveness, efficiency, and quality assurance. The multi-level nature of education systems gives rise to particular roles for review and evaluation at the various levels in the system.

Organisational development and accountability are discussed in the light of the management of quality within organisational units and across the system. Accountability and development are viewed as complementary characteristics of a particular perspective of quality. The shift from previous hierarchical administrative models of management to devolved systems which have a markedly different control structure leads to a greater emphasis on audit in order to ensure accountability. Indicators are discussed in terms of their role in assessing performance and practice against quality standards.

The issues raised in the paper are discussed in the context of the emerging system of quality management and review in the South Australian Education Department.

PERFORMANCE INDICATORS AND THE MANAGEMENT OF QUALITY IN EDUCATION

INTRODUCTION

This paper discusses the role of performance indicators in the management of quality in state education systems. A substantial re-organisation and re-orientation of public sector organisations in Australia has been underway for some time and continues unabated. The shift over the last half decade towards the devolution of authority and responsibility to lower levels within such organisations has been driven by two key imperatives: budget considerations and the need to achieve greater efficiency and effectiveness; and the need to achieve greater responsiveness both to policy development at the government level and to client and public demands.

Performance indicators have been an integral part of the development of systems required in response to these changes, particularly in relation to strategic management and issues of quality assurance. Performance indicators are discussed below in the context of a convergence of theoretical perspectives on quality management in large scale organisations and multi-level organisational perspectives of education systems.

The increased visibility and importance of monitoring and audit activity, in conjunction with review and evaluation, due to the reduced formal control exercised by bureaucratic mechanisms, as systems devolve has provided a particularly important role for performance indicators.

The *development* of operational units for the effective and efficient delivery of the programs has also proved to be an emergent issue. Again this provides a nexus for the role of performance indicators in assuring program quality.

The paper is divided into the following sections: background issues on performance indicators; recent changes in public sector management; a convergence of frameworks between quality management perspectives and organisational perspectives of education systems; the role of monitoring, audit, review and evaluation; the development and accountability of operational units; and the management of quality. The paper concludes with a brief case study of the way in which these issues are being addressed and emergent developments in the South Australian Education Department.

PERFORMANCE INDICATORS

Measurement issues

Performance indicators in public service organisations are an integral part of wider information systems. These information systems include text information in addition to quantifiable information, some of which is in the form of performance indicators.

The term *indicator* begs the referent, since an indicator is an indicator of something in particular. This distinguishes indicators from the general realm of quantifiable or statistical information in that the meaning of a particular indicator derives from the ontological framework in which it is placed. Indicator information is a measure of the quality or quantity of a particular thing. Measurement in this sense may refer to no more than the existence of a characteristic of inputs, processes or outputs.

In terms of measurement, performance indicators may be measured by *nominal, ordinal, interval or ratio* scales. A *nominal* measure is one which merely distinguishes between properties or qualities. For example, three alternative qualitative outcomes of a particular event. The nominal property of this measure indicates that there is no distinction between the alternative outcomes in terms of one outcome being more or less desirable than another. An *ordinal* measure places a ranking on the desirability of the particular categories that might arise in a nominal measure. That is, the categories of the measuring scale indicate greater or lesser degrees of desirability. In terms or outputs, for example, the categories would indicate increasingly higher levels of output. Categories such as excellent–good–fair–poor provide ordinal information on an indicator.

Measurement based on an *interval* scale adds a further dimension to the relationship between scores in each category on the scale. In essence, the differences between categories on the scale indicate equal degrees of increase or decrease. In the example above, an assumption that the difference between each of the categories excellent–good–fair–poor is of equal magnitude would translate the scale into an interval scale. However, a measurement that is twice the magnitude of another measurement does not imply that the former is twice as favourable. For this to be the case the indicator scale must have an absolute zero point, rather than an arbitrary zero point. Indicator scales that have this latter property are known as *ratio* scales. Thus, a score of four on such a scale indicates a score which is twice as favourable as a score of two, and four times more favourable than a score of one.

Hence, it is important to ascertain whether or not the measurement of a performance indicator is being interpreted in terms of a nominal, ordinal, interval or ratio scale. The fact that an indicator scale has numbers associated with each category does not automatically mean that it is a ratio scale. For example, it would

not generally be the case that eighty percent of students entering a particular course would be considered to be twice as good a result as forty percent of students entering that course. Rather, it would be more normal to interpret the relationship between a score of forty percent and a score of eighty percent in an ordinal sense, that is that the latter is greater than the former but by a factor which is greater or lesser than two, depending on the operational framework the indicator refers to. Further, the grading systems in public examinations are often based on a scale with the categories designated by a particular letter of the alphabet. In such cases it is less likely that anyone will misinterpret the score as a ratio scale when it is in fact an ordinal scale. That is, an 'A' grade is not five times greater than an 'E' grade on a five-point scale. The alphabetical symbols on such a scale could equally be replaced by numbers, but this would increase the risk that the scale might be misinterpreted as a ratio scale.

All scales—nominal, ordinal, interval, ratio—for performance indicators, indicate measurement of the particular performance. However, indicators may indicate either or both differences in quantity and quality. Therefore, it is not always legitimate to simply compare results across indicators, and certainly not legitimate to add a series of indicators together to obtain a broader indicator. There are methodologies available for adding individual indicators together, but it is better to consider whether a single indicator is more appropriate than such a composite, particularly when the efficiency of collecting the data is a consideration.

Purposes of performance indicators

The literature on performance indicators in education sometimes makes the distinction between those which are *performance* indicators, and those which are *education* indicators. This perspective is particularly prominent in the North American literature. However, there is good reason to treat all indicators in education as performance indicators. Later in the paper I outline a convergence of theoretical perspectives in organisation theory and quality management systems which leads to the view that education systems are multi-level in character, and that within any part of the education system an operational unit or an individual worker is simultaneously a client of the services provided in support to them from other parts of the system, and a producer of services or products to other parts of the system. Hence, at any one point in the structure the operation of a unit or an individual can be viewed as a performance in the context of the requirements of their clients.

Indicator systems in education have been proposed in order to address a range of different issues. The main uses that have been suggested for them include:

- assessing the impact of educational reforms
- informing policy makers of the practices that are most effective for improving education
- explaining causes of conditions and changes
- informing decision making and management
- stimulating and focussing effort

- ensuring accountability
- defining educational objectives
- monitoring standards and trends
- forecasting future changes.

Each of the above uses of indicator systems in education is discussed in more detail in Cuttance (1989). Oakes (1986) has suggested that there are five types of information that indicators must provide at the operational level. These are:

- performance information in relation to the achievement of goals and objectives
- information on the features of the system that are most important in achieving particular goals and objectives
- policy relevant information
- problem orientated information
- information on *central* features of the system.

Table 1 Purposes of education indicator systems and the types of information they need to provide

Purpose of Performance Indicator	Type of Information Required				
	Evaluation			Monitoring	
	Achievement of goals & objectives	Features responsible for performance	Policy relevant information	Problem orientated information	Information about central features of the system
Assessing impact of reforms	X	X	X		
Assessing most effective practices	X	X	X	X	
Explaining causes & conditions	X	X	X	X	X
Decision making & management	X	X	X	X	X
Stimulating & focusing effort	X	X	X	X	X
Ensuring accountability	X		X		X
Defining objectives		X	X		X
Monitoring standards & trends			X	X	X
Forecasting future change			X	X	X

Table 1 cross-classifies these five types of information against the nine purposes set out earlier for education indicator systems. The five types of information can be sub-divided into those which are derived from *evaluations* of the system and those

which are derived from routine *monitoring* of the system. The category of 'policy relevant information' is applicable to information from both evaluation and monitoring sources. Also, a certain amount of 'problem oriented information' will be made available through the diagnostic and formative components of formal *evaluation* activities, but its main source will be from *monitoring* activities in the system. From table 1 it is clear that some of the purposes put forward for education indicators draw more heavily on *monitoring* activities and others draw more heavily on *evaluation* activities. Thus, an indicator system which encompasses all nine purposes would need to gather information from both formal evaluations and from routine monitoring of the system.

The purposes of performance indicators described above can be subsumed under the more general functions of quality assurance, development and accountability in education systems. Before moving on to discuss these functions, however, I outline some of the recent changes in public sector management and their effects on the management of public education systems.

RECENT CHANGES IN PUBLIC SECTOR MANAGEMENT

The management of change

The impetus to change in management in the public sector has come from two sources:

- the need to manage change itself
- budget constraints.

The change has generally resulted in a movement towards the devolution of greater authority and responsibility to the operational levels in the system at which particular activities are carried out. This has substantially reduced the hierarchical nature of public bureaucracies and provided them with stronger corporate identities. The flattening of management structures has also been made possible by the more informed use for information technology. Such technology has reduced the need for the large cadre of middle level management who had the role of preparing, massaging, and interpreting information for higher level managers.

The extent of devolution in a system influences the number of levels and the relationships between levels. In particular, in a devolved system the number of levels is likely to be fewer than in a centralised system, and units which would be otherwise at a particular level in a centralised system may be off-line as service units in a devolved system.

Increased devolution has forced a split between policy formulation and policy implementation among levels in the system. Increased devolution has been accompanied by significant shifts in management structures and control structures to provide managers at the various levels with the appropriate authority to manage—the 'let the managers manage' phenomenon. Reduction in the hierarchy

within organisations has led to greater task efficiency through better co-ordination of operational activities.

An important additional effect of devolving authority to lower levels has been to reduce the formal control that the system exercises over operational decision making. However, the requirement for accountability in the system is not reduced, hence, the increased role of audit to ensure accountability in devolved systems.

Strategic planning and strategic management

Models of public sector management which are based primarily on strategic planning have been found to be subject to significant limitations. This had led to the development of systems of strategic management which assume that decision makers in organisations utilise a repertoire of alternative procedures and interpretations of events. More general issues relating to the interface of public sector organisations and political decision making, and public sector management are discussed in McGuire (1989).

Strategic management requires that organisations develop goals and objectives and plan strategies for achieving particular outcomes. Further, it requires that an implementation (action) plan be developed for the operational activities of the organisation. Such action plans provide the authority and delegation for implementing strategic plans. They indicate who is responsible for undertaking particular aspects of the implementation of strategies and how that is to be done, a timeline for the actions, and an indication of the resources to be provided. Such action plans should also indicate the intended outputs from the activities, and performance indicators should be clearly stated for these outputs.

It is important for indicator purposes to distinguish between *outputs* and *outcomes* in education processes. Outputs are the immediate product or service produced by a particular administrative or other process. For example, the output of a curriculum development unit may be a specific set of curriculum materials. The outcome of this process may however be more general, for example, a broader range of curriculum materials available for teachers. Thus, indicators of outputs at one level are indicators of outcomes of a more general nature at another level in the system.

A Convergence of Frameworks

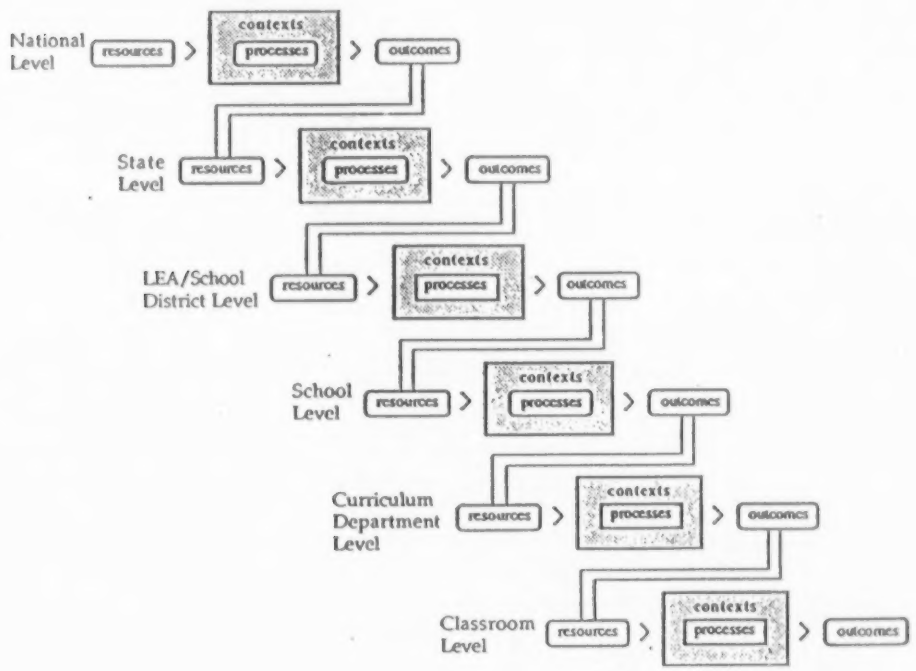
During the last decade two quite separate developments in the literature on organisations and management have provided the basis for a convergence of perspectives on the management of quality in education systems. The corporate management literature has developed a perspective on the management of quality which argues that any individual decision maker or actor in a corporation is simultaneously a client of some other individual or sector of that organisation and a service provider to other units or individuals within the organisation. This

dovetails neatly with a perspective developed in the organisational literature of education systems as multi-level systems.

School systems as multi-level organisations

Recent writing has conceived of the school system as a set of institutional levels each connected together in a way that describes the outcomes at one level to be the resources and contexts made available to units at the next level, as shown in figure 1. The levels of the system are designated by the familiar administrative and governmental layers through which policy decisions are transmitted through organisational structures and professional practices from central and state governments, to school districts, to schools, and within schools to curriculum departments to classrooms, and finally to the individual pupil. The structure of levels within primary schools differs somewhat from this description in that it omits some of these levels, but introduces a new level within classrooms, representing within-class instructional groups.

Figure 1 The multi-level organisational structure of school systems



In this framework the particular resources and outcomes for education vary from level to level. Central and state governments provide a set of fiscal and legislative parameters that determine the global resources for schooling which are then translated into educational provision and services by school districts to schools. The outcomes at the State level are policies, and at the school district level they are the provision and contexts which constitute the resources made available at the level of the school. These resources include teaching staff, professional services, administrative and management structures, etc, which provide a framework in which schools operate as operational units.

Each of the organisational levels in the system constitute an educational environment that frames the activities of all organisations operating at each level below it. Since the relationship between levels is hierarchical, the outcomes of each organisation at a particular level has a common influence on the units which it services. For example, each school district has a common influence on all of the schools under its jurisdiction. Differences in performance and educational processes may therefore eminate from the variation in contexts and resources between school districts. Schools within individual districts share a common set of resource parameters. Differentiation in the relationship among resources and outcomes among schools arises from differences in their mission and objectives, and in the effectiveness and efficiency of processes that transform resources into outcomes at each organisational level within schools.

Within schools, curriculum departments share common frameworks determined by school policies and objectives that provide a basis for the delivery of the formal curriculum. The main outcome at the curriculum department level is the specification of a curriculum structure for each subject area. This structure provides the resources and context at the year-group level where decisions are made about the allocation of pupils and teachers to classrooms. The outcomes of decisions at the subject year-group level are classes of pupils matched to the available pool of teaching resources. These resources then constitute the teaching resources and practices available to each classroom. Their effects are mediated by the context of pupil learning characteristics. The outcome at the classroom level is coverage of the curriculum, which is determined by the content and the pace at which material is presented to pupils, and the organisation of instruction in the classroom. In turn, these constitute the resources that are made available to learning at the pupil level, for which the outcome is the level of mastery of the curriculum material attained by pupils.

Implications for a system of education indicators

This multi-level view of schooling provides the basis for a framework of education indicators which links resources, contexts, processes, and outcomes within and between levels. In this model a system if inter-related resources and outcomes are mediated by contexts and transformed by processes at each level. That is, the model suggests that in order to explain variation in pupil learning outcomes we need to understand the inter-relationships between resources,

contexts, processes, and outcomes at each level of the system, and the links among them between levels.

This view of schooling has important implications for a framework of education indicators and their integration into a structure of school self-evaluation and school development. In particular, if it emphasises the potential differentiation in outcomes at each level of the school system. A commitment to the support of programs for the development of schools requires a parallel commitment to monitor their effectiveness at all levels of the system.

The uses of indicator systems discussed earlier relate to the monitoring of outcomes and the evaluation of the effectiveness of education processes. The multi-level model of schooling outlined above suggests that while monitoring and evaluation might be carried out at any of the levels in the system, an understanding of why the system is performing in a particular way will require simultaneous information on the functioning of organisational units at several levels in the system, and on the links between levels.

The objectives and outcomes at each level in the system reflect the type of activities that are undertaken at the level to which they apply, and indicators of resources, contexts, processes, and outputs have meanings determined by the level to which they are appropriate.

An explanation of changes in the performance of units at any level in the system relies on an understanding of the articulation between levels, on the way that processes transform resources into outcomes at the various levels, and the way in which contexts mediate the relationship between resources and outcomes at each level. Education indicator systems must therefore provide information on the relationship between resources, contexts, processes and outcomes at each level in the system and on the link between outcomes at one level and resources at the next. Thus, education indicators need to emphasise performance as a *process*, rather than simply as a set of outputs. Because the outcomes at one level may be viewed as the resources made available at the next level, the phrases *education indicator* and *performance indicator* may be used synonymously.

The Management of Quality

Australian public sector systems for the management of quality have been historically based on administrative models imported from the United Kingdom. These models have employed bureaucratic procedures and controls on the input of resources. Recently there has been a shift in emphasis to a focus on outputs from the system, along the lines more commonly found in North American models. Neither the input nor the output models provide any assurance that the output from the system will be of high quality. Input models are largely budget driven, and output models usually provide checks, through inspection systems, to remove inferior products or services before they are distributed to clients.

Modern Japanese approaches to corporate management have focussed on the structure and processes required to assure quality during the production of services and products. This is sometimes referred to as 'building-in' the process of quality management. The intent of the approach is to *assure* the quality of the end products and services by managing quality at each stage of the process. Such *quality management* systems also emphasize final outputs from the system for the assessment of the overall efficiency and effectiveness of the system.

One of the key tenets of quality management systems is the close monitoring of quality at each stage of the process. This requires simple and straight forward procedures for monitoring quality and for taking immediate action to rectify any situation which leads to a reduction in quality at any stage in a process. Measurable indicators of the quality of goods and services at each stage in the process are crucial to such a system. The perspective that every individual actor or unit is simultaneously a client of other units or actors and a producer of goods and services to others at each stage in the process is also vital. The imperative to assure the quality of both work practices and outcomes at each stage in the process is supported by the recognition by every worker and unit that it requires all of its inputs to be of the appropriate standard if it is to achieve high quality outputs itself.

THE ROLE OF MONITORING, AUDIT, REVIEW, EVALUATION

Although the educational research literature tends to use the terms monitoring, review and evaluation interchangeably to describe the full gamut of activities in this area it is important to recognise that different approaches are required in different situations. In particular, the open ended and wide-ranging nature of educational evaluation as promoted in the research literature may require more resources than those available for monitoring quality at each stage in education systems.

I will define the terms monitoring, audit, review and evaluation to refer to differentiated activities required to assure the management of quality in an education system. I use the term *monitoring* to refer to the periodic gathering of information about a particular practice, condition, or program in education. Monitoring in this sense provides the *intelligence* required to maintain a watching brief for a range of selected aspects of the quality of these individual processes. The measures used in the monitoring exercise may, or may not, refer to specific quality standards. For example, an education system might monitor the percentage of students who at a particular stage of their educational career enter different types of courses. In most cases such monitoring exercises would not directly refer to a particular quality standard, in the sense that the system may not have any predetermined criteria for the optimal distribution of students across courses. *Audit* on the other hand does refer to particular quality standards. Auditing thus involves monitoring against specific quality standards.

I use the term *review* to refer to assessment processes which deal with the organisational structures, processes and practices of individual operating units.

This use of the term, therefore, includes the type of activities that have in the past been undertaken as internal or self-evaluation activities by schools or other units themselves. I reserve the term *evaluation* for its more traditional use in the evaluation of programs and policies.

Monitoring and audit activities clearly require the development of indicators to assess performance in terms of intended outputs and against quality standards. In this context they may be used to contribute to Treasury reporting on departmental programs and activities.

Reviews of organisational units focus on both processes and outputs and are effectiveness and efficiency orientated. They require that the unit has objectives, and they assess the effectiveness with which the unit has achieved the intended outcomes to match those objectives. Performance indicators simplify and clarify the assessment of whether the outputs of units are of the quality and quantity required for the attainment of objectives. Reviews may also incorporate elements or audit in the sense that they monitor quality assurance in the operation of the unit against external standards. For example, the quality of personnel management in a unit may be assessed against system-wide standards for personnel practices.

The evaluation of programs and policies is orientated to the immediate outputs of particular components of those programs, but also to the more general outcomes that are the focus of policies. Such evaluations should involve the full range of stakeholders in a consideration of whether or not the outcomes are the ones that are the most desirable and they should also assess the unintended outcomes from the program or policy. Performance indicators provide a straightforward means of assessing whether program and policy objectives have been met. Clearly stated objectives and outcomes are required before indicators can be derived. The lack of clarity of statements of the objectives and expected outcomes for some programs and policies reflects the 'political' nature of such programs. It is, however, important to distinguish between effective government and effective politics. A clear statement of expected outcomes for a policy is an essential element of quality management in governance and administration.

Development and Accountability in Education Systems

There is an interesting duality in the concepts of accountability and development applicable to education systems. Accountability refers to the *proving* of quality and development to the *improving* of quality. Clearly, systems based on input controls and those with a specific focus on outputs address the issue of accountability directly, although from quite different perspectives. However, they pay little attention to the contribution that accountability processes might make to the development needs of an organisation. The advantage gained by adopting a quality management perspective is that of binding the process of accountability and development into the one structure. Whilst it is important for operational reasons to maintain a distinction between accountability and development activities, it is also

important for the overall effectiveness of an organisational unit that accountability and development are seen as complementary to each other. More importantly, accountability systems need to be established in a way which maximises their contribution to the development of the unit.

CASE STUDY: THE MANAGEMENT OF QUALITY IN THE SOUTH AUSTRALIAN EDUCATION DEPARTMENT

System-level

Since this a *State* education department I will refer to the government level as the system level. The key activity at system level is policy formulation and development. Performance indicators at the system level service reporting on the effectiveness of the system to the Treasury and the Minister. A series of indicators are being developed for Treasury reporting on each of the programs and sub-programs within the Department. Audits of the effectiveness of quality management throughout the system are also required by the Treasury.

Reporting to the Minister for ministerial accountability purposes centres around the monitoring of educational outcomes for students and indicators of performance at selected levels in the system. The indicators of *outputs* at each level, including the student-level, are interpreted as indicators of *outcomes* at the system level. These performance indicators are therefore indicators of the effectiveness with which the system is achieving its priorities and objectives.

In addition to this system-level assessment of effectiveness, reviews of individual organisational units contribute to a systemic review of the overall organisational structures for the system. Further, an ongoing audit of practices against quality standards in organisational units provides performance indicators of the effectiveness of a range of key practices in the system.

Approximately 100 indicators of quality standards have been developed for schools. These are known as *effective practice* indicators. Effective practice indicators are divided into four *domains*: teaching and learning, management and organisation, ethos and culture, equal opportunities and social justice. Table 2 provides an example of an indicator statement from each of the four domains. These statements are designed to provide a quality standard against which the performance in each organisational unit reviewed is assessed. Assessments are made as to whether or not the standards reflected in the statements are being met by the unit, or the extent to which the unit currently is not meeting that standard. Similarly quality standards and appropriate indicator statements for non-school units are currently under development.

The primary functions at department-level relate to the development of strategies for policy implementation and strategic management and planning. These activities are reflected in the Department's Three Year Plan, which is revised annually after a

Table 2 Examples of Performance Indicators for the Assessment of Effective Practice in Schools

DOMAIN	AREA	ASPECT	INDICATOR STATEMENT
Teaching & Learning	Curriculum Provision	Curriculum Planning	There is evidence of planning which ensures coherence and continuity in each student's learning and a planning process which involves the key stakeholders. Aims and objectives are clear. Every student has access to a curriculum which is consistent with ED policy in relation to both breadth and balance. Planning provides for the active engagement and the effective use of time of every student; it acknowledges group affiliations and gives recognition to the learning that occurs beyond the classroom.
Management & Organisation	Communication & Decision Making	Decision Making: Structures & Processes	Shared decision making is seen as an essential aspect of the daily life of the school. The decision making policy, school structures and processes are understood and supported by the school community. Processes are used confidently by students, staff and parents and there is a high level of satisfaction with the way that decisions are made in the school. There are clearly defined roles and procedures within the established structures. All stakeholders have access to information. Decisions are made public and processes are in place so that monitoring of action following decisions occurs. The decision making policy and the accompanying structures and processes are regularly reviewed and modified where necessary.
Ethos & Culture	Expectations of Learning Outcomes	Support for Excellence & Equity	Structures are provided to support the attainment of high learning outcomes for all students. These structures support teachers, students and parents to facilitate quality learning. They include the provision of student learning and career counselling, information about learning pathways, staff appraisal and professional development programs. Resources are targeted and used in ways that support the learning of all students.
Equal Opportunities & Social Justice	Inclusive Curriculum	Curriculum Content	The values, experiences and needs of target groups are an integral part of the curriculum. Curriculum materials address and include the experiences of all groups of people: women, men, people from other cultures, people with disabilities, Aboriginal people. Curriculum statements identify and support the ways in which the success of targetted groups will be ensured, and strategies are clearly described in individual policy statements which meet the needs of these groups. Materials used in the school are free from sexist and racist language and accessible by all students. Students with disabilities have a documented curriculum negotiated with parent, student, teachers and services providers.

Ref: PIRG CONF Table 2

review of progress. There are also assessments of the effectiveness of individual programs in achieving their intended outcomes.

Directorate-level

Directorates within the Department can be viewed as consisting of two elements: an executive policy and planning function, and development or service functions. The executive policy and planning function is responsible for the development of structures for the operational implementation of programs and policies. The effectiveness of the development of the directorate's own management plan, and procedures for monitoring and reviewing progress towards the successful fulfilment of that plan provide vital indicators of quality management. In the case of central directorates, the development and service units provide a service and products to operational directorates whose service units are then responsible for the direct provision of materials and services to schools.

Reviews of directorates consist of two components. Service units (cost centres) are reviewed individually as separate operating units. The parameters of such reviews are taken from the particular tasks and functions which the units serve within the directorate as providers of products and services. Their effectiveness in meeting client needs is assessed and their management of quality is audited in terms of the appropriateness of their organisational structures, processes and practices.

All directorates and service units develop a management plan which specifies the objectives of their operations, the strategies to be employed in meeting these objectives, and the outcomes expected. Action plans are also developed for the implementation of the objectives specified in the management plan. These action plans state performance indicators which units use in monitoring their own progress and which the Education Review Unit employs when it undertakes an external review of the unit. External reviews of development and service units are conducted against both the criteria (performance indicators) developed by the unit itself and external criteria embodied in system-wide quality standards.

Reviews of the executive functions of directorates are undertaken as a separate exercise. The parameters of these reviews are determined by the function which the particular directorate serves within the Department, and the effectiveness with which its service or development units meet client needs. Management structures for assuring the quality of services and products provided by service units are a primary focus of such reviews.

As the devolution of authority and responsibility to the school-level is increased some of the services and products provided to schools may be obtained from sources other than the Department's directorates. This may occur either through the development of self-funding agencies within the Department or through schools purchasing such services and products from outside the Department. In either case such services are considered to be off-line with respect to individual directorates.

School-level

A major element of the management of quality in schools is the school development plan. School development plans provide a brief and concise public statement of the proposed major themes for development within schools. The processes by which the school development plan objectives are identified, implemented and reviewed are crucial to the success of the plan. Objectives must focus on increasing educational outcomes for students. Manageable and achievable objectives are set for each year of the plan. Objectives reflect both system and local school priorities. The choice of strategies to address individual objectives is informed by knowledge of effective practice in schools. As such these strategies also provide the basis for innovation and new thinking in schools.

School development plans have a three year time horizon and they identify the schools growth and development areas for a school over that period. They must include a statement of objectives, strategies and verifiable outcomes. One year action plans are developed for the implementation of the school development plan. An important part of these action plans is the development of an ongoing monitoring process to assess progress towards achievement of the outcomes stated in the plan. An annual internal review of overall progress is conducted and the plan rolled forward for an additional year. External reviews by the Education Review Unit are conducted on a three year cycle. These external reviews focus on:

- the effectiveness of the planning process which resulted in the production of the school development plan
- the management of the change processes associated with the implementation of the school development plan
- the effectiveness of the strategies employed by the school
- the extent to which the school has achieved its objectives and stretched its performance in improving outcomes for students.

Audits of practices and processes against the pre-defined standards set out in the effective practice instruments are undertaken during school reviews also. Further, the Curriculum Directorate in the Department is in the process of developing a system for assessing the attainment levels of students at various stages of their educational career. Once these have been developed, Education Review Unit reviews will also assess the standard with which these procedures are being used to monitor student performance.

The Education Review Unit takes the axiomatic view that the purpose of the education system is to provide for high quality student learning. That is, student learning is the ultimate systemic outcome. Hence, the monitoring of student learning through performance indicators for appropriate levels of attainment is a fundamental aspect of the overall assessment of whether or not the system is achieving its stated goals.

CONCLUSION

Performance indicators are a fundamental tool in the assurance of quality in an education system. They should not be seen either as ends in themselves or as mere technical devices for providing information. I have argued that performance indicators need to provide information about performance in the system in relation to outputs at each stage and level in the production of services, products, and ultimately, student learning. They provide key information for the processes of review and evaluation—which are themselves components of the process by which the system assures quality—and are fundamental to the monitoring of outputs and the auditing of quality standards.

The convergence of perspectives in the literature on corporate quality management with those of the organisational literature on school systems provides a very powerful approach to the assurance of quality. At every stage in this process verifiable indicators of performance are vital to the assurance of quality, the provision of information for development, and for demonstrating accountability.

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Appendix 1 Domains, Areas and Aspects of the Performance Indicators for School Practice

TEACHING AND LEARNING	MANAGEMENT & ORGANISATION	ETHOS AND CULTURE	EQUAL OPPORTUNITY & SOCIAL JUSTICE
Learning Environment Classroom Climate Human Resources Physical Environment	**Vision and Planning** Context Leader's Personnel Vision School Development Planning School Management Plan	**Democracy** Decision Making Participation Communication Structures Education for Democratic Living	**Administration & Organisation** Personnel Management Resource Management Decision Making Planning and Development Training and Development
Curriculum Provision Curriculum Planning Curriculum Content Curriculum Materials Curriculum Monitoring & Review	**Leadership (at all levels)** Personal Skills Interpersonal Skills Leadership Development	**Values & Beliefs** Shared values & articulated vision Inclusive Practice Traditions and Rituals The school as a human place	**Participation & Access** Enrolment Retention Career & Life Choices Communication
Teaching Practices Teacher/Learner Relationship Teaching Knowledge Teaching Approaches Teaching Skills Monitoring and Reporting	**Communication & Decision Making** Communication - Structures and Processes Decision Making - Structures and Processes	**Expectations of Learning Outcomes** Support for Excellence and Equity Assessment Policy & Practice Student commitment and morale Staff commitment and morale Curriculum	**Inclusive Curriculum** Curriculum Content Methodologies Specific Programs Affirmative Action
Student Learning Learning Attitudes Learning Strategies Involvement and Participation	**Personnel Management** Personnel Policies and Practices Training and Development Healthy Working Environment Workforce Planning Leadership Positions	**Relationships** Communication Human Relations Conflict resolution Leadership density Structures	**Supportive School Environment** Behaviour Management School Culture Harassment Anti Racism Child Protection
Relationships & Communication Classroom Interactions Organisational Arrangements Language Usage	**Student Focussed Program & Management** Student Morale Student Welfare Assessment Achievement Acknowledgement Inclusive Attitudes and Practices	**Cultural Difference** Curriculum Support Structures School Policies	
Home/School Interactions Relationships, Communication and Information sharing Working Together	**Curriculum Management** Relevance Resource Management Review Process	**Leadership & Management** Congruence between Policy & Practice Equity Management "tightly structured values in a loosely structured system" Leadership Development of leadership skills	
	Resource Management Budget Management Grounds, Facilities, Equipment Resources Beyond the School	**Learning Environment** Worksite atmosphere Safe, ordered, positive environment Student management Whole school commitment to learning Learning congruence across the school	
	Parent and Community Involvement/Participation "Partners in Learning"		
	Evaluation and Review Whole School Review Program/Curriculum Evaluation Student Assessment Staff Evaluation		

Ref: AERA CONF PAPER APPX1

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Appendix 2 Examples of the Performance Indicator Statements

DOMAIN	AREA	ASPECT	INDICATOR STATEMENT
Teaching & Learning	Curriculum Provision	Curriculum Planning	There is evidence of planning which ensures coherence and continuity in each student's learning and a planning process which involves the key stakeholders. Aims and objectives are clear. Every student has access to a curriculum which is consistent with ED policy in relation to both breadth and balance. Planning provides for the active engagement and the effective use of time of every student; it acknowledges group affiliations and gives recognition to the learning that occurs beyond the classroom.
Management & Organisation	Communication & Decision Making	Decision Making: Structures & Processes	Shared decision making is seen as an essential aspect of the daily life of the school. The decision making policy, school structures and processes are understood and supported by the school community. Processes are used confidently by students, staff and parents and there is a high level of satisfaction with the way in which decisions are made in the school. Roles and procedures within the established structures are clearly defined. All school stakeholders have access to relevant information. School decisions are made public and processes are in place to ensure that monitoring of action following decisions occurs. The decision making policy and the accompanying structures and processes are regularly reviewed and modified where necessary.
Ethos & Culture	Expectations of Learning Outcomes	Support for Excellence & Equity	Structures are provided to support the attainment of high learning outcomes for all students. These structures support teachers, students and parents to facilitate quality learning. They include the provision of student learning and career counselling, information about learning pathways, staff appraisal and professional development programs. Resources are targeted and used in ways that support the learning of all students.
Equal Opportunities & Social Justice *Ref: AERA CONF PAPER APPX2*	Inclusive Curriculum	Curriculum Content	The values, experiences and needs of target groups are an integral part of the curriculum. Curriculum materials address and include the experiences of all groups of people. Curriculum statements identify and support the ways in which the success of targetted groups will be ensured. Strategies are clearly described in individual policy statements which meet the needs of these groups. The school has made an active effort to use materials that are free from sexist and racist language and accessible by all students. Students with disabilities have a documented curriculum negotiated with parent, student, teachers and service providers.

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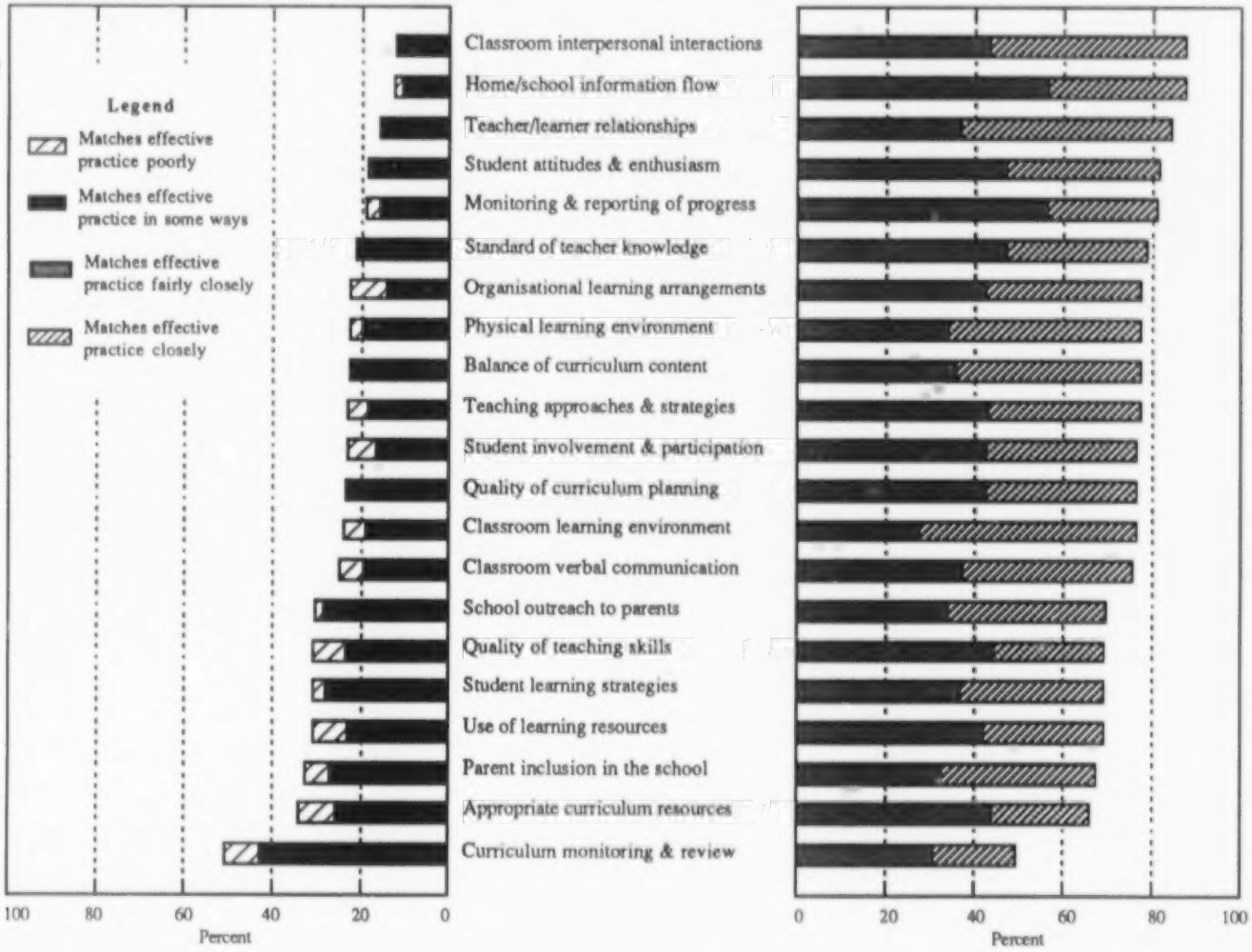
Appendix 3 Assessment of schools on the various aspects of practice in the Teaching and Learning domain (1990)



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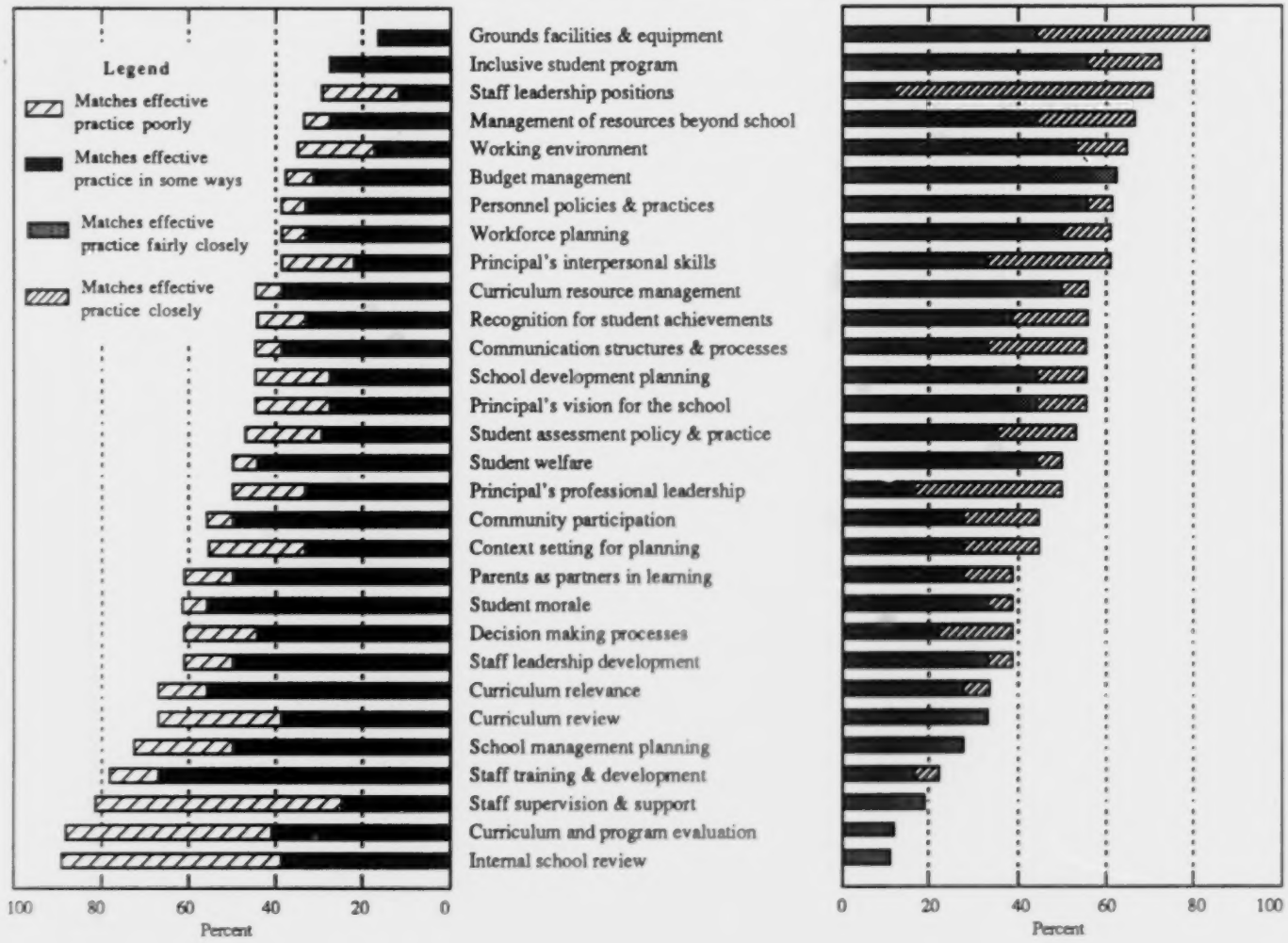
Appendix 4 Assessment of schools on the various aspects of practice in the Management and Organisation domain (1990)



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